



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. 99-569-A)

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PATENT  
TECH CENTER 1600/2800

In re Application of: Nakayama et al. )  
Serial No.: 09/724,915 )  
Filed: November 28, 2000 )  
For: Chordin-Like Molecules )  
and Uses Thereof )

Before the Examiner: D. Romeo

Group Art Unit: 1647

#11  
M.J.  
9/5/02

Commissioner for Patents  
Washington, D.C. 20231

Sir:

**RESPONSE TO RESTRICTION REQUIREMENT MAILED JULY 2, 2002**

Responsive to the Restriction Requirement, mailed July 2, 2002, Applicants elect to prosecute claims 1-8, 10, 11, and 45, designated as Group I by the Examiner. The claims of Group I are drawn to nucleic acids, vectors, and host cells comprising same, and methods of recombinantly producing the encoded polypeptide. Applicants further elect to prosecute the species of the nucleic acid sequence as set forth in SEQ ID NO: 7, with traverse. The basis for Applicants' traversal of the requirement is as follows.

Applicants respectfully submit that there will be no undue hardship on the Office in performing a search with respect to the nucleic acid sequences of SEQ ID NO: 7 and SEQ ID NO: 11. The Chordin-Like (CHL) polypeptides encoded by these sequences (i.e., the amino acid sequences set forth in SEQ ID NO: 8 and SEQ ID NO: 12) share a sequence identity of 98%, differing only in that the polypeptide of SEQ ID NO: 8 has a five amino acid insertion at positions 319-323 (Exhibit A). The open reading frames for each of these sequences share a sequence identity of greater than 98% (Exhibit B). Sequence alignments were performed using the application MacVector 7.1.1 (Accelrys, Cambridge, UK; <http://www.accelrys.com>) at the default settings.

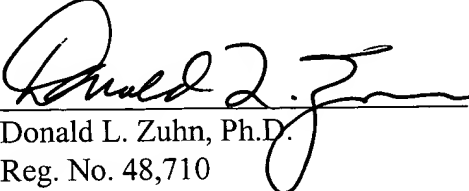
Applicants enclose a petition for a one-month extension of time. The Commissioner is authorized to charge any deficiency to Deposit Account No. 13-2490. If Examiner Romeo believes

it to be helpful, he is invited to contact the undersigned representative by telephone at (312) 913-0001.

Respectfully submitted,  
**McDonnell Boehnen Hulbert & Berghoff**

Dated: August 22, 2002

By:

  
Donald L. Zuhn, Ph.D.  
Reg. No. 48,710

## EXHIBIT A

Aligned Length = 452    Gaps = 1  
Identities = 447 (98%)    Similarities = 0 (0%)

```
SEQ12.txt 1 MGGMKYIFSLLFFLLLEGGKTEQVKHSETYCMFQDKKYRVGERWHPYLEP 50
SEQ08.txt 1 MGGMKYIFSLLFFLLLEGGKTEQVKHSETYCMFQDKKYRVGERWHPYLEP 50
*****

SEQ12.txt 51 YGLVYCVNCICSENGNVLC SRVRCPNVHCLSPVHIPHLCCPRCPEDSLPP 100
SEQ08.txt 51 YGLVYCVNCICSENGNVLC SRVRCPNVHCLSPVHIPHLCCPRCPEDSLPP 100
*****

SEQ12.txt 101 VNNKVTSKSC EYNGTTYQH GELFVAEGLFQNRQPNQCTQCSCSEGNVYCG 150
SEQ08.txt 101 VNNKVTSKSC EYNGTTYQH GELFVAEGLFQNRQPNQCTQCSCSEGNVYCG 150
*****

SEQ12.txt 151 LKTCPKLTCAFPVSPDSCCRVCRGDGELSWEHSDGDIFRQPANREARHS 200
SEQ08.txt 151 LKTCPKLTCAFPVSPDSCCRVCRGDGELSWEHSDGDIFRQPANREARHS 200
*****

SEQ12.txt 201 YHRSHYDPPPSRQAGGLSRFPGARSHRGALMDSQQASGTIVQIVINNKHK 250
SEQ08.txt 201 YHRSHYDPPPSRQAGGLSRFPGARSHRGALMDSQQASGTIVQIVINNKHK 250
*****

SEQ12.txt 251 HGQVCVSN GKTYSHGESWHPNLRAFGIVECVLTCNVTKQECKKIHCPNR 300
SEQ08.txt 251 HGQVCVSN GKTYSHGESWHPNLRAFGIVECVLTCNVTKQECKKIHCPNR 300
*****

SEQ12.txt 301 YPCKYPQKIDGKCKVCP-----EELPGQSFDNKG YFCGEETMPVYESVF 345
SEQ08.txt 301 YPCKYPQKIDGKCKVCPGKKAKEELPGQSFDNKG YFCGEETMPVYESVF 350
*****

SEQ12.txt 346 MEDGETTRKIALETERPPQVEVHVWTIRKGILQHFHIEKISKRMFEELPH 395
SEQ08.txt 351 MEDGETTRKIALETERPPQVEVHVWTIRKGILQHFHIEKISKRMFEELPH 400
*****

SEQ12.txt 396 FKLVTTRTTLSQWKIFTEGEAQISQMCSSRVC RTELEDLVKVL YLERSEKG 445
SEQ08.txt 401 FKLVTTRTTLSQWKIFTEGEAQISQMCSSRVC RTELEDLVKVL YLERSEKG 450
*****

SEQ12.txt 446 HC 447
SEQ08.txt 451 HC 452
**
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## EXHIBIT B

	10	20	30	40	50
SEQ11_ORF	ATGGGAGGCATGAAATACATCTTTTCGTTGTTGTTCTTTCTTTTGCTAGA>				
SEQ07_ORF					
	60	70	80	90	100
SEQ11_ORF	AGGAGGCAAAACAGAGCAAGTAAACATTTCAGAGACATATTGCATGTTTC>				
SEQ07_ORF					
	110	120	130	140	150
SEQ11_ORF	AAGACAAGAAGTACAGAGTGGGTGAGAGATGGCATCCTTACCTGGAACCT>				
SEQ07_ORF					
	160	170	180	190	200
SEQ11_ORF	TATGGGTTGGTTTACTGCGTGAAGTGCATCTGCTCAGAGAATGGGAATGT>				
SEQ07_ORF					
	210	220	230	240	250
SEQ11_ORF	GCTTTGCAGCCGAGTCAGATGTCCAAATGTTTCATTGCCTTTCTCCTGTGC>				
SEQ07_ORF					
	260	270	280	290	300
SEQ11_ORF	ATATTCTCATCTGTGCTGCCCTCGCTGCCCAGAAGACTCCTTACCCCCA>				
SEQ07_ORF					
	310	320	330	340	350
SEQ11_ORF	GTGAACAATAAGGTGACCAGCAAGTCTTGCGAGTACAATGGGACAACCTTA>				
SEQ07_ORF					
	360	370	380	390	400
SEQ11_ORF	CCAACATGGAGAGCTGTTTCGTAGCTGAAGGGCTCTTTCAGAATCGGCAAC>				
SEQ07_ORF					
	410	420	430	440	450
SEQ11_ORF	CCAATCAATGCACCCAGTGCAGCTGTTTCGGAGGGAAACGTGTATTGTGGT>				
SEQ07_ORF					
	460	470	480	490	500
SEQ11_ORF	CTCAAGACTTGCCCCAAATTAACCTGTGCCTTCCCAGTCTCTGTTCCAGA>				
SEQ07_ORF					
	510	520	530	540	550
SEQ11_ORF	TTCCTGCTGCCGGGTATGCAGAGGAGATGGAGAAGTGTATGGGAACATT>				
SEQ07_ORF					

	560	570	580	590	600
SEQ11_ORF	CTGATGGTGATATCTTCCGGCAACCTGCCAACAGAGAAGCAAGACATTCT>				
SEQ07_ORF	CTGATGGTGATATCTTCCGGCAACCTGCCAACAGAGAAGCAAGACATTCT				
	610	620	630	640	650
SEQ11_ORF	TACCACCGCTCTCACTATGATCCTCCACCAAGCCGACAGGCTGGAGGTCT>				
SEQ07_ORF	TACCACCGCTCTCACTATGATCCTCCACCAAGCCGACAGGCTGGAGGTCT				
	660	670	680	690	700
SEQ11_ORF	GTCCCGCTTTCTGGGGCCAGAAGTCACCGGGGAGCTCTTATGGATTCCC>				
SEQ07_ORF	GTCCCGCTTTCTGGGGCCAGAAGTCACCGGGGAGCTCTTATGGATTCCC				
	710	720	730	740	750
SEQ11_ORF	AGCAAGCATCAGGAACCATTTGTGCAAATTGTCATCAATAACAAACACAAG>				
SEQ07_ORF	AGCAAGCATCAGGAACCATTTGTGCAAATTGTCATCAATAACAAACACAAG				
	760	770	780	790	800
SEQ11_ORF	CATGGACAAGTGTGTGTTTCCAATGGAAAGACCTATTCTCATGGCGAGTC>				
SEQ07_ORF	CATGGACAAGTGTGTGTTTCCAATGGAAAGACCTATTCTCATGGCGAGTC				
	810	820	830	840	850
SEQ11_ORF	CTGGCACCCAAACCTCCGGGCATTTGGCATTGTGGAGTGTGTGCTATGTA>				
SEQ07_ORF	CTGGCACCCAAACCTCCGGGCATTTGGCATTGTGGAGTGTGTGCTATGTA				
	860	870	880	890	900
SEQ11_ORF	CTTGTAATGTCACCAAGCAAGAGTGTAAGAAAATCCACTGCCCCAATCGA>				
SEQ07_ORF	CTTGTAATGTCACCAAGCAAGAGTGTAAGAAAATCCACTGCCCCAATCGA				
	910	920	930	940	950
SEQ11_ORF	TACCCCTGCAAGTATCCTCAAAAAATAGACGGAAAGTGCTGCAAGGTGTG>				
SEQ07_ORF	TACCCCTGCAAGTATCCTCAAAAAATAGACGGAAAGTGCTGCAAGGTGTG				
		960	970	980	
SEQ11_ORF	TCC-----AGAAGAACTTCCAGGCCAAAGCTTTGACAATA>				
SEQ07_ORF	TCCAGGTAAAAAGCAAAAGAAGAACTTCCAGGCCAAAGCTTTGACAATA				
	990	1000	1010	1020	1030
SEQ11_ORF	AAGGCTACTTCTGCGGGGAAGAAACGATGCCTGTGTATGAGTCTGTATTCT>				
SEQ07_ORF	AAGGCTACTTCTGCGGGGAAGAAACGATGCCTGTGTATGAGTCTGTATTCT				
	1040	1050	1060	1070	1080
SEQ11_ORF	ATGGAGGATGGGGAGACAACCAGAAAAATAGCACTGGGAGACTGAGAGACC>				
SEQ07_ORF	ATGGAGGATGGGGAGACAACCAGAAAAATAGCACTGGGAGACTGAGAGACC				

	1090	1100	1110	1120	1130
SEQ11_ORF	ACCTCAGGTAGAGGTCCACGTTTGGACTATTTCGAAAGGGCATTCTCCAGC>				
SEQ07_ORF	ACCTCAGGTAGAGGTCCACGTTTGGACTATTTCGAAAGGGCATTCTCCAGC				
	1140	1150	1160	1170	1180
SEQ11_ORF	ACTTCCATATTGAGAAGATCTCCAAGAGGATGTTTGAGGAGCTTCCTCAC>				
SEQ07_ORF	ACTTCCATATTGAGAAGATCTCCAAGAGGATGTTTGAGGAGCTTCCTCAC				
	1190	1200	1210	1220	1230
SEQ11_ORF	TTCAAGCTGGTGACCAGAACAACCCTGAGCCAGTGGAAGATCTTCACCGA>				
SEQ07_ORF	TTCAAGCTGGTGACCAGAACAACCCTGAGCCAGTGGAAGATCTTCACCGA				
	1240	1250	1260	1270	1280
SEQ11_ORF	AGGAGAAGCTCAGATCAGCCAGATGTGTTCAAGTCGTGTATGCAGAACAG>				
SEQ07_ORF	AGGAGAAGCTCAGATCAGCCAGATGTGTTCAAGTCGTGTATGCAGAACAG				
	1290	1300	1310	1320	1330
SEQ11_ORF	AGCTTGAAGATTTAGTCAAGGTTTTGTACCTGGAGAGATCTGAAAAGGGC>				
SEQ07_ORF	AGCTTGAAGATTTAGTCAAGGTTTTGTACCTGGAGAGATCTGAAAAGGGC				
	1340				
SEQ11_ORF	CACTGT>				
SEQ07_ORF.	CACTGT				